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ABSTRACT

This study was undertaken to determine the effects of different ways of coping on caregivers' physical health and symptoms of depression and anxiety. Sixty persons living with and caring for a spouse with Alzheimer's disease (n=58) or multi-infarct dementia (n=2) were interviewed and evaluated by a series of instruments. Independent variables measured included the severity of the memory and behavior problems of the demented patient, caregivers' stress, caregivers' appraisal of options for managing caregiving, and forms of coping used by caregivers. Dependent variables were three adverse health outcomes: reduced physical health, depression, and anxiety. Two sets of regression analyses conducted on the data revealed that gender of caretaker was a significant predictor for physical health only, with caregiving husbands healthier than caregiving wives; and that confrontive coping, with its theme of aggressive efforts to change the situation, was the best predictor of anxiety, while escape-avoidance was the second best predictor. These results suggest that caregivers who show these patterns should be identified by clinicians as at high risk for depression and anxiety. (Fifteen references are included, and findings are displayed in six tables.) (TE)

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# THE EFFECTS OF COPING ON HEALTH OUTCOMES IN CAREGIVING SPOUSES OF DEMENTIA PATIENTS

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# THE EFFECTS OF COPING ON HEALTH OUTCOMES IN CAREGIVING SPOUSES OF DEMENTIA PATIENTS

Caring for persons with dementia can result in family caregivers experiencing significant deterioration in their emotional and physical health (Cohen & Eisdorfer, 1988; George & Gwyther, 1986; Moritz, Kasl, & Berkman, 1989; Rabins, Mace, & Lucas, 1982). Recently, several investigators have suggested that the coping efforts used by caregivers are significant determinants of the impact of caregiving on their health (Levine, Dastoor, & Gendron, 1986; Pearlin, Turner, & Semple, 1989; Pratt, Schmall, Wright, & Cleland, 1985; Zarit, Todd, & Zarit, 1986). However, evidence of the effects coping on specific outcomes for caregivers' health is limited (Quayhagen & Quayhagen, 1988; Vitaliano, Russo, Carr, Maiuro, & Becker, 1985).

The purpose of this study was to determine the effects of different ways of coping on caregivers' physical health and symptoms of depression and anxiety. The cognitive theory of stress and coping developed by Lazarus and colleagues (Lazarus & Folkman, 1984) guided the study (see Figure 1). The dependent variables were three negative health outcomes: reduced physical health, depression, and anxiety. The independent variables were: the severity of the memory and behavior problems of the demented patients, caregivers' appraisal of the stressfulness of the patients' problems, subsequently called caregiver stress, caregivers' appraisal of options for managing caregiving, and forms of coping used by caregivers.

The severity of the memory and behavior problems of the patient, was expected to have a positive, but weak relationship with the health outcomes. Caregiver stress was expected to have a positive, but stronger relationship with the health outcomes. Two options were examined: the

extent to which caregivers appraised the situation as unchangeable and appraised it as one which they must accept. The effects of these two options were uncertain since they had been little studied with caregivers. Eight forms of coping were examined as predictors of health outcomes. Certain forms of coping used by caregivers were expected to have strong positive correlations with the health outcomes, while other forms of coping were expected to have negative correlations with the health outcomes.

The hypothesis of the study, therefore, was that the addition of caregivers' forms of coping as independent variables would significantly increase the explanation of caregivers' physical health and symptoms of depression and anxiety over the explanation contributed by the other independent variables: severity of the patients' memory and behavior problems, caregivers' stress, and caregivers' appraisal of their options for managing caregiving.

## Sample

Sixty (N = 60) persons living with and caring for a spouse with Alzheimer's disease (n = 58) or multi-infarct dementia (n = 2) were interviewed. Over half of the subjects (58%, n = 35) were recruited from an Alzheimer center of a large university hospital; the others were recruited primarily from adult day care centers and caregiver support groups.

As shown in Table 1, 38 wives (63%) were caring for their husbands and 22 husbands (37%) were caring for their wives. Among this predominantly white (97%), middle-class sample, the mean age of the caregivers was 72 (SD = 5.7), mean years of education was 13 years (SD = 3.2), and mean years of caregiving was 2.9 (SD = 3.1, median 2 years, range 0 - 16; three caregivers reported that they were not doing things for their spouse that he/she used to do for him/herself). Husbands, who had a mean

of 3.9 (SD = 3.4) years of caregiving, had been caregivers significantly longer than wives, who had a mean of 2.3 (SD = 2.8) years of caregiving ($t$ (58) = 2.10, $p < .05$).

As further shown in Table 1, the patients were about 2 years older than the caregivers and similar in years of education. The patients had symptoms of dementia an average of 4.9 years (SD = 3.7), with a range from 9 months to two outliers of 18 and 22 years. The severity of their memory and behavior problems ranged from 8 to 132 on a possible range of 0 - 150, with a mean of 55.7 (SD = 23.7). The severity of the memory and behavior problems of the male patients, at a mean of 60.5, was significantly greater than the severity of the problems of the female patients, at a mean of 47.4 ($t$ (58) = -2.12, $p < .05$).

## Instruments

Severity of the patients' memory and behavior problems was measured with the Memory and Behavior Problems Checklist, Part A of Zarit and Zarit, 1983 (alpha = .86). Caregivers' stress was measured with the Memory and Behavior Problems Checklist, Part B (alpha = .94). On a possible range from 0 to 120, caregivers' stress ranged from 0 to 87, with one-half of the caregivers scoring 11 or less (M = 17.3, SD = 18.7). Appraisal of options was measured with two items adapted from Folkman et al. (1986). Caregivers rated on a five-point Likert scale (0 -4) the extent to which (a) their situation was one that could not be changed, and (b) was one that must be accepted. On the "could not change the situation" item the mean was 2.7 (SD = 1.8); on the "must accept the situation" item the mean was 3.6 (SD = 1.0) Coping was measured with the revised Ways of Coping Checklist of Folkman et al. (1986), which yielded eight forms of coping with higher scores indicating more frequent use of the coping effort. These eight forms of

coping were: confrontive coping, which describes aggressive and hostile efforts to alter the situation (alpha = .61); distancing, which describes efforts to detach oneself and to create a positive outlook (alpha = .36); self-control, which describes efforts to regulate one's feelings and actions (alpha = .64); seeking social support, which describes efforts to seek informational and emotional support (alpha = .81); accepting responsibility, which acknowledges one's own role in the problem with a subtheme of trying to make things right (alpha = .51); escape-avoidance, which describes wishful thinking and efforts to escape (alpha = .58); planful problem-solving, which describes problem-focused efforts to alter the situation (alpha = .63); and, positive reappraisal, which describes efforts to create positive meaning by focusing on personal growth (alpha = .70). Table 2 shows the percentage of caregivers using each of the coping subscales and the frequency of their use.

To decrease the number of coping variables for subsequent entry into regression analyses, the eight coping subscales were reduced to three factors by principal axis factoring, with Equimax rotation (see Table 3). Planful problem-solving, positive reappraisal, and seeking social support loaded on factor 1, which was called Resourcefulness (alpha = .83). Escape-avoidance, confrontive coping, and accepts responsibility loaded on Factor 2, which was called Wishing-Emotive coping (alpha = .74). Distancing and self-controlling loaded on Factor 3, which was called Controlling Feelings (alpha = .86).

Physical health was measured with six self-report items from OARS (alpha = .63). On a possible range from best health to worst health from 4 to 130, the mean was 9 (SD = 3.2), indicating that this was a physically healthy sample of caregivers .

Symptoms of depression and anxiety were measured with the depression (alpha = .78) and anxiety (alpha = .76) dimensions of the Brief

Symptom Inventory (Derogatis & Spencer, 1982). On a range from 0 for no distress to 4 for extreme distress, the mean for depression was .64 (SD = .67, median = .50) and the mean for anxiety was .50 (SD = .58, median = .30). Twenty-five percent of the caregivers (n = 15) reported at least some distress related to symptoms of depression and 15% (n = 9) reported at least some distress related to symptoms of anxiety.

## Analysis

Caregivers' physical health, depression, and anxiety were used as separate dependent variables in three hierarchical regression equations. The independent variables were entered in the following order: sex of caregiver, age of caregiver, severity of patient problems, caregiver stress, unchangeable situation, and must accept situation, followed by stepwise selection of the three coping factors, Resourcefulness, Wishing-Emotive coping, and Controlling Feelings. Age of caregiver, unchangeable situation, and must accept situation were not significant predictors in any of the equations and these variables were eliminated from further analysis. Sex of caregiver was a significant predictor for physical health only, with caregiving husbands having significantly better physical health than caregiving wives. A second set of regression analyses was then performed. The results of this set follow, with one regression for each of the three dependent variables.

## Results

As shown in Table 4, the amount of variance in physical health explained by caregiver sex, patient problems, caregiver stress, and Wishing-Emotive coping (the only coping factor to enter the equation) was 9% and not significant. However, as hypothesized, Wishing-Emotive coping significantly, although slightly (6%) increased the amount of variance explained.

When depression was the dependent variable (see Table 5), patient problems, caregiver stress, and Wishing-Emotive coping accounted for a total of 43% of the variance. Wishing-Emotive coping significantly increased the variance explained as hypothesized, although the amount of increase was small ( 8%). Looking at the beta weights, the best predictor of depression was caregivers' stress, followed by wishing-emotive coping, and then patient problems.

In the explanation of anxiety (see Table 5), patient problems, caregiver stress, and Wishing-Emotive coping explained a total of 43% of the variance. Wishing-emotive coping increased the variance explained by 21%, a significant contribution as hypothesized.

Next, the three original coping subscales that constituted the Wishing-Emotive factor were used to explain depression and anxiety. These subscales were escape-avoidance, confrontive coping, and accepts responsibility. As shown in Table 6, in the explanation of depression, escape-avoidance, with its theme of wishing the situation would go away, made a significant contribution (10%). In the explanation of anxiety, confrontive coping, with its theme of aggressive efforts to change the situation, was the best predictor of anxiety. Escape-avoidance was the second best predictor. Caregiver stress was third and patient problems made an insignificant contribution.

## Discussion

The major limitation of this study was its cross-sectional design, which did not not allow causal inferences. It was assumed that coping was influencing physical health, depression, and anxiety. However, it is likely that physical health, depression, and anxiety were also influencing the coping efforts used.

In future research, a more sensitive measure of physical health is needed to detect changes due to caregiving. Among this sample of relatively healthly caregivers, 28% reported that their physical health had been negatively affected by caregiving. However, the six-item measure of physical health used in this study was not sensitive enough to detect this change. Also, a coping instrument developed specifically for caregiving would provide a more detailed understanding of coping among caregivers.

As for clinical implications, clearly, coping affects health outcomes. Those caregivers who use a pattern of escape-avoidance, confrontive coping, and accepting responsibility should be identified by clinicians as at high risk for depression and anxiety and helped to develop alternative coping strategies.

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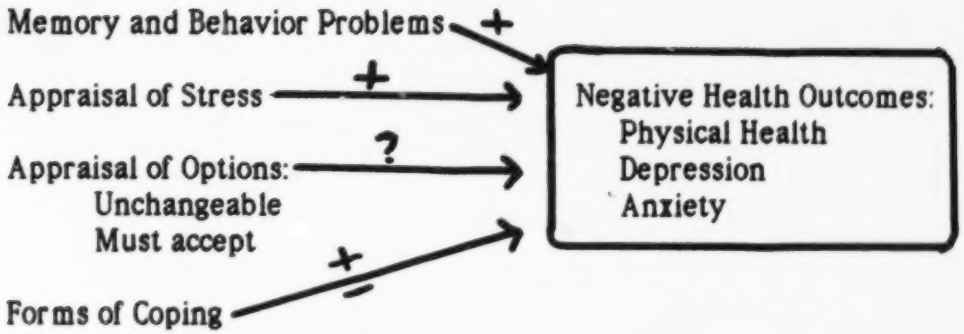


Figure 1. Conceptual framework, adapted from the cognitive theory of stress and coping of Lazarus and colleagues.

Table 1
Demographic Data on Caregivers and Patients

| | Caregivers | | |
|---|---|---|---|
| | Total (N = 60) | Wives (n = 38) | Husbands (n = 22) |
| Characteristics | Mean | Mean | Mean |
| Age (years) | 72.0 | 71.0 | 73.0 |
| Education (years) | 13.0 | 12.3 | 13.6 |
| Years of caregiving | 2.9 | 2.3 | 3.9* |
| | **Patients** | | |
| | Total (N = 60) | Males (n = 38) | Females (n = 22) |
| Characteristics | Mean | Mean | Mean |
| Age (years) | 74.0 | 75.4 | 71.2 |
| Education (years) | 12.0 | 12.2 | 11.4 |
| Years of symptoms | 4.9 | 4.5 | 5.5 |
| Memory & behavior problems[a] | 55.7 | 60.5 | 47.4* |

[a] Based on the mean frequency rating, Part A, Memory and Behavior Problems Checklist (Zarit & Zarit, 1983)
* $p < .05$

Table 2
Percentage of Caregivers Using Coping Subscales and Frequency of Use

| Coping Subscale | Caregivers Using % (n) | Frequency of Use[a] Mean | SD | Median |
|---|---|---|---|---|
| Seeking social support | 67 (40) | 1.3 | .8 | 1.2 |
| Positive reappraisal | 62 (37) | 1.2 | .6 | 1.1 |
| Planful problem-solving | 52 (31) | 1.0 | .6 | 1.0 |
| Self-controlling | 48 (29) | .9 | .6 | .9 |
| Distancing | 42 (25) | .9 | .5 | .8 |
| Confrontive | 36 (22) | .8 | .5 | .8 |
| Accepting responsibility | 32 (19) | .7 | .5 | .5 |
| Escape-Avoidance | 22 (13) | .5 | .4 | .4 |

[a] ratings: 0 = did not use/did not apply to 3 = used a great deal

Table 3
Factor Structure and Factor Loadings of Subscales of Ways of Coping Checklist

| | Factors | | | |
|---|---|---|---|---|
| Coping Subscales | 1 | 2 | 3 | Total Variance |
| Planful problem-solving | .82 | | | |
| Positive reappraisal | .61 | | | |
| Seeking social support | .53 | | | |
| Escape-avoidance | | .62 | | |
| Confrontive coping | | .62 | | |
| Accepts responsibility | | .59 | | |
| Distancing | | | .63 | |
| Self-controlling | | | .59 | |
| Eigen Value | 2.48 | .94 | .61 | |
| % of Variance | 31.0 | 11.7 | 7.7 | 50.4 |

Table 4
Regression Analysis: Sex of Caregiver, Severity of Patient Problems, Caregiver Stress, and Coping Factors Regressed on Caregivers' Physical Health

| | Independent Variables | Partial r | Beta | Multiple R | $R^2$ adj | Change in $R^2$ |
|---|---|---|---|---|---|---|
| Physical Health | Caregiver Sex | .27 | .28* | .27 | .06* | |
| | Patient Problems | .02 | -.05 | .27 | .04 | -.02 |
| | Caregiver Stress | .06 | -.08 | .27 | .03 | -.01 |
| | Wishing-Emotive | .29 | .30* | .38 | .09 n.s. | .06* |

*p < .05

Table 5
Regression Analysis: Severity of Patient Problems, Caregiver Stress, and Coping Factors Regressed on Depression and Anxiety

| Dependent Variable | Independent Variables | Partial r | Beta | $R^2$ adj | Change in $R^2$ |
|---|---|---|---|---|---|
| Depression | Patient Problems | .42 | -.02 | .17** | |
| | Caregiver Stress | .48 | .47** | .35*** | .18** |
| | Wishing-Emotive | .37 | .33** | .43*** | .08* |
| Anxiety | Patient Problems | .24 | -.16 | .04 | |
| | Caregiver Stress | .44 | .35* | .22*** | .18*** |
| | Wishing-Emotive | .54 | .53*** | .43*** | .21*** |

*p < .05, **p < .01, ***p < .001

Table 6
Regression Analysis: Severity of Patient Problems, Caregiver Stress, Escape-Avoidance, Confrontive Coping, and Accepts Responsibility Regressed on Depression and Anxiety

| Dependent Variable | Independent Variables | Partial r | Beta | $R^2$ adj | Change in $R^2$ |
|---|---|---|---|---|---|
| Depression | Patient Problems | .42 | .01 | .17*** | |
| | Caregiver Stress | .48 | .46** | .35*** | .18*** |
| | Escape-avoidance | .41 | .36** | .45*** | .10** |
| Anxiety | Patient Problems | .24 | -.08 | .04 | |
| | Caregiver Stress | .44 | .28 | .22*** | .18*** |
| | Confrontive Coping | .49 | .37** | .40*** | .18*** |
| | Escape-avoidance | .33 | .29* | .45*** | .05* |

*p < .05, **p < .01, ***p < .001